

POWER PUTTER

Field of the Invention

This invention relates to the field of a golf devices. More specifically, this invention relates to a golf putting device that allows for the calculation of the power of a putt. Further,
5 this invention relates to a device that allows an individual to train their putting techniques.

BACKGROUND OF THE INVENTION

The sport of golf is a very difficult one to master. Players of the sport are always trying to improve and perfect their game. The game has different components that an individual must master before his or her game is complete. One of these components is the
10 individuals putting skills. assertion

Perfecting and maintaining a good putting game is challenging for both a beginning golfer and seasoned professionals. Every golfer goes through times when his or her putting is slightly off. A few key elements of a good putt is consistency, uniformity, aim and execution. An individual must be able to aim where he or she intends which includes aspects
15 of alignment, the putter and the entire body. Another important facet of good putting is putting the ball along the intended line of aim. Most players of the game never achieve a consistently accurate aim, so they have no way of knowing whether they are properly executing the putt along the intended line. If an individual is to be successful in putting, that individual must be able to aim the ball where he or she intends and then putt the ball along
20 the line.

Another important element of proper putting includes distance and speed control. Wind and moisture can greatly affect putt distance and speed. Many golfers take practice putts on a practice green to get a feeling for speed and how hard to strike a putt in order to obtain a desired distance of roll. They also are able to warm up their golfing muscles and get a sense for how the greens will play during their round. On most golf courses, the greens are cut daily and the height of the grass relates directly with the speed at which a golf ball will roll given an initial velocity. Shorter grass will cause green speeds to increase. Another factor that can affect speed and distance of ball travel may be the grain of cut grass. Grain is the natural direction in which the individual blades of grass grow. If a golfer is putting against the grain, then the ball will travel shorter than if the ball is traveling with the grain. Many golfing facilities have practice greens specifically made for these reasons.

However, some golf facilities do not have practice greens for putting. Further, it would be advantageous for the golfer to practice speed and distance control at their own leisure without the need to go to a golfing facility.

A further problem exists that there is no apparatus or system that can gauge the speed or distance for which a putt may be measured that takes up relatively little space. What is needed is a golf putt measurement device that may be utilized away from a golfing facility and used by an individual to calculate a power rating of a putt. Further, a golf putt measuring device is needed that can be programmed to allow for different speeds and distances to be programmed into the device for practice away from the golf facility.

SUMMARY OF THE INVENTION

The present invention provides golf accessory for improving the putting of an individual. More specifically, the present invention provides a golf accessory that may gauge the speed and power of a practice putt of an individual. The present invention also provides
5 a golf accessory that may be easily transported and used away from a golf facility such that the device may be utilized to calculate real world speed and putting power.

To this end, in an embodiment of the present invention, a golf putt measuring device is provided. The golf putt measuring device has a body having a first side and a second side. The body also has a top side and a bottom side wherein the bottom side is placed on a
10 generally flat surface. The golf putt measuring device has a microprocessor controlled processing means to measure speed, power and distance of a golf ball. The device uses emitters and detectors placed inside the body of the device to detect an object as it passes in front of the emitters and detectors. The device has a power means for powering the golf putt measuring device. Further, the device has a display means on the top side of the body of the
15 device.

In an embodiment, the golf putt measuring device has emitters and detectors that use infrared sensors.

In an embodiment, the golf putt measuring device uses emitters and detectors to measure the speed of a golf ball as the ball passes in front of the emitters and detectors.

In an embodiment, the golf putt measuring device has emitters and detectors spaced apart from a plurality of other emitters and detectors and wherein the emitters and detectors are placed at least one half inch off the bottom of the golf putt measuring device.

5 In an embodiment, the golf putt measuring device uses emitters that are pulsed using a specific pulse width and as an object passes in front of at least one of the emitters, the signal is reflected back to a detector.

In an embodiment, the golf putt measuring device has a microprocessor controlled counter that runs until a ball passes by a plurality of emitters and detectors.

10 In an embodiment, the golf putt measuring device has a counter that converts the data received from the emitters and detectors and displays a power rating value relating to the speed of the ball wherein the power rating is displayed on the display means.

In an embodiment, the golf putt measuring device has a batter voltage monitor such that when the voltage of the power supply changes, the pulse width of the emitters also change to improve performance of the emitters such that when the power supply is low, the emitters and detectors will work using a different pulse width for peak efficiency.

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In an embodiment, the golf putt measuring device has an audio feedback means to provide audio feedback to a user of the device.

In an embodiment, the golf putt measuring device has software to program the device with multiple modes including game modes and training modes.

In an embodiment, the golf putt measuring device has an on/off button that resets the microprocessor allowing the microprocessor to turn itself off or on.

In an embodiment of the present invention, a method for using a golf putting device is provided. The method includes the steps of: providing a golf measuring device having a
5 body with a first side and a second side wherein the body has a top side and a bottom side; providing a display means on the top side of the device; providing a plurality of emitters and detectors within the body of the device wherein the emitters and detectors can sense movement; providing a power source to power the device; providing a microprocessor to manage the emitters and detectors, collect data from the emitters and detectors and display
10 information collected on the display mean; and turning the device on or off.

In an embodiment, the method comprises the step of allowing a user to putt a golf ball in front of the device wherein the emitters emit a infrared pulse that bounces off the ball and back to the detectors.

In an embodiment, the method comprises the step of providing software run by the
15 microprocessor wherein the software allows the user to manipulate the device for training purposes or for game purposes.

In an embodiment, the method comprises the step of providing an audio feedback mechanism to inform the user by audio cue of the putting result.

In an embodiment, the method comprising the step of putting a golf ball in front of the device wherein the golf ball travels from one side of the device to the second side of the device.

5 In an embodiment, the method comprises the step of emitting an infrared signal from the emitters to be ricocheted off the ball as it travels past the emitter and collecting the signal by using the detectors.

In an embodiment, the method comprises the step of processing the data received from the detectors.

10 In an embodiment, the method comprises the step of converting the data received from the detectors into a power rating value that relates to the speed and distance the ball travels.

In an embodiment, the method comprises the step of displaying the results of the collected data on the display means.

It is, therefore, an advantage of the present invention to provide a golf putt measuring device and a method for using the same.

15 Another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device has emitters and detectors.

Yet another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device has emitters and detectors that use an infrared signal.

Still another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device may use a microprocessor to control the infrared emitters and infrared detectors.

Another advantage of the present invention is to provide a golf putt measuring device
5 and a method for using the same wherein the device may have a display screen to display the distance and/or speed of a golf ball that is hit in front of the device..

Yet another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the emitters and detectors may be pulsed with a specific pulse width as an object passes in front of the device.

10 Still another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device has a power supply.

An advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device may have a battery to supply power to the device.

15 Yet another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the battery voltage is monitored so that as the voltage changes, the pulse width of the emitters may also be changed accordingly with the power supply.

Another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device has a reset button that resets the microprocessor.

Yet another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the microprocessor may shut itself down when not in use.

Still another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device may have an audio feedback system to give audio feedback to a user.

Another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device may have software that may be programmed to have multiple modes of use.

Still another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device may be used in game mode.

Yet another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device may be used in training mode.

Another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device may have a practice mode.

Yet another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device may display on a display screen the speed a ball is traveling.

5 Still another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device may display on a display screen the distance the ball is projected to travel.

An advantage of the present invention is to provide a golf putting measuring device and a method for using the same wherein the device may display on a display screen a power rating for the ball that travels in front of the device.

10 Another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device may shut off automatically if not in use.

Yet another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein a ball may travel in either direction in front of the measuring device to give a reading of speed, distance, or power rating.

15 Still another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein a microprocessor controls the emitters and detectors.

Yet another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device may use an infrared emitters to
20 bounce a signal off a golf ball wherein the signal may be received by a detector.

An advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein a microprocessor may collect data from the emitters and the detectors.

Yet another advantage of the present invention is to provide a golf measuring device
5 and a method for using the same wherein a microprocessor may convert data collected from the emitters and the detectors into a special power rating which may be displayed on a display means.

Still another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein the device a plurality of emitters and a
10 plurality of detectors.

Another advantage of the present invention is to provide a golf putt measuring device and a method for using the same wherein a plurality of emitters and a plurality of detectors may be placed in different locations in the device to collect data when a ball is passed in front of the plurality of emitters and the plurality of detectors.

15 These and other objects of the invention will become more clear when one reads the following specification, taken together with the drawings that are attached hereto. The scope of protection sought by the inventors may be gleaned from a fair reading of the Claims that conclude this specification.

Additional features and advantages of the present invention are described in, and will be apparent from, the detailed description of the presently preferred embodiments and from the drawings.

DESCRIPTION OF THE DRAWINGS

5 Figure 1 is a top perspective view of the golf putt measuring device in an embodiment of the present invention;

 Figure 2 is a side perspective view of the golf putt measuring device in an embodiment of the present invention;

 Figure 3 is a top perspective view of the golf putt measuring device showing the
10 collection of data of a ball in front of the device in an embodiment of the present invention;

 Figure 4 is a to perspective view of the golf putt measuring device showing the display means and options in an embodiment of the present invention;

 Figure 5 is another side perspective view of the golf putt measuring device in an embodiment of the present invention;

15 Figure 6 is another side perspective view of the golf putt measuring device illustrating a ball in front of the device in an embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

 Turning now to the drawings wherein elements are identified by numbers and like elements are identified by like numbers throughout the 6 figures, the invention is depicted
20 in Figure 1 that shows a golf putt measuring device. As shown in Figure 1, the golf putt

measuring device 1 may have a body that has a plurality of sides. The device 1 may have a first side 3 and a second side 5. The first side 3 and the second side 5 of the device 1 are horizontal to one another. The device 1 may have a display screen 7 that may indicate a power rating of a ball that moves past the device 1. The device 1 may have a plurality of emitters 11 and detectors 13. The emitters 11 and detectors 13 may use an infrared pulse that sends a signal away from the emitter 11. The pulse (not shown) may strike an object that passes in the path of the pulse and will be ricocheted off the object and is captured by the detectors 13. The emitters 11 and detectors 13 are controlled by a microprocessor (not shown) that regulates the pulse width of the infrared signal. The signal that is captured by the detectors 13 is collected by the microprocessor (not shown) and may be converted into a special power rating that may be displayed on the display screen 7. The display screen 7 is an LCD display have may have a plurality of segments to display a number.

Figure 2 illustrates a side view of the golf putt measuring device 1 showing the placement of the emitters 11 and detectors 13. In a preferred embodiment, the emitters 11 and detectors 13 are placed in sets 17 to complement one another. A sets 17 may be spaced apart from another set 19 to allow for an object to pass from one set 17 to a subsequent set 19.

Figure 3 illustrates an embodiment of the golf putt measuring device 1 where a ball 21 is puttied from one side 3 of the device 1 to a second side 5 of the device 1. The ball 21 may travel in front of the first set 17 of emitters 11 and detectors 13. When the ball passes

in front of the first set 17 a pulse signal is sent from the emitter 11 and bounces off the ball 21. The pulse signal is re-directed back to the device 1 where the signal may be received by the detector 13. The detector 13 receives the signal and a microprocessor 23 converts the signal into data that may be displayed on the display screen 7. In a preferred embodiment, the data collected from the detector is converted by the microprocessor 23 into a special power rating that may be displayed on a display screen 7. In alternate embodiments of the invention, the microprocessor 23 may convert the data into speed, power rating and/or distance or other usual information displayable on the display screen 7. The emitters 11 may be pulsed using a specific pulse width and as an object passes in front of one of the emitters 11 and the signal is reflected back, a counter (not shown) may be started and remain running until either the ball 21 passes by a second set 19 of emitter 11 and detectors 13, or a timeout is reached. A timeout may be reached when the ball 21 does not pass in front of a second set 19 of emitters 11.

Figure 4 illustrates an embodiment of the top of the device 1 showing a display screen 7 having numbers displayed. The display screen 7 may have a plurality of segment LED displays 29 to illustrate a speed, distance and/or power rating of a putt ball 21. The device 1 may have a plurality of buttons thereon. In a preferred embodiment, the device may have a speed button 31, a distance button 33, and a game mode button 35. The buttons relates to the configuration of the device 1. For example, when the speed button 31 is pressed and a user putts a ball 21, the device 1 will display a speed rating for the putt ball 21 on the

display screen 7. Alternatively, when the distance button 33 is pressed, the device 1 will display a estimated distance of the putt ball 21. Figure 4 also illustrates a power supply for the golf putt measuring device 1. In a preferred embodiment of the present invention, the power supply is a battery 39. However, the device 1 may also use DC current and/or an electrical plug outlet. The power source is monitored by the microprocessor 23 so that if the voltage of the power source changes, the pulse width of the emitters 11 may also be changed. For example, when the battery 39 starts to lose charge, the emitters 11 may pulse at a longer duration. The change in pulse width may improve performance even at lower power ratings.

Referring now to Figure 5 and 6, a side view of the preferred embodiment of the present invention is illustrated. The device 1 may have a thickness such that the emitters 11 and detectors 13 are elevated from a generally flat surface the device may be placed on. In a preferred embodiment, the emitters 11 and detectors 13 are placed at least .5 inches from the bottom portion of the device 1. As Figure 6 illustrates, the emitters 11 may send out an infrared pulse that reflects off a ball 21 and may be sent back to the device 1 where the signal may be captured by the detector 13. The microprocessor 23 may collect the data from the detector 13 and may convert and display the data on the display screen 7.

It should be understood that various changes and modifications to the presently preferred embodiments described herein will be apparent to those skilled in the art. Such changes and modifications may be made without departing from the spirit and scope of the present invention and without diminishing its attendant advantages.